

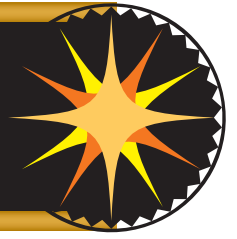


Knoxville South Waterfront Redevelopment Feasibility Study

april 2005



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Report Purpose

The City of Knoxville engaged Fregonese Calthorpe Associates in January to study the feasibility and options of development on the City's South Waterfront. The East Tennessee Community Design Center also provided funding for the project. The purpose of this study was to use a scenario planning technique to investigate the range of feasible alternatives for development in the south waterfront. In addition, the range of options available to the City in order to stimulate and guide development was to be explored, including the development of a South Knoxville Waterfront master plan. A "no action" alternative was also to be given serious consideration.

Study Area

The study area includes the south Knoxville area from the Scottish Pike neighborhood in the west to the James White Parkway in the east, with Cutter ridge generally the southern boundary, and of course the Tennessee river in the north. Generally, the Gay Street/Henley Bridge Area divides the site into eastern and western sections.



Scenario Planning and Project Scope

Scenario planning is widely used in business and military settings. Given the complexity of the environment, the number of variables that have to be considered, and the long time frame for City projects such as the South Waterfront, it is practically impossible to develop a long range plan that envisions only a single outcome. Clearly, any plan for the area must envision the use of key strategies, with several possible outcomes—a planning system that adapts to opportunities as they occur. Scenario planning is a process that provides for a way to explore these options.

Scenarios are really stories about what might be. They are not forecasts and they are not predictions. They are possible futures, based on what already exists, on trends that are evident, and on the values and preferences of the participants. The essential requirement of any scenario is that it be plausible, within the realm of what exists and what is now known.

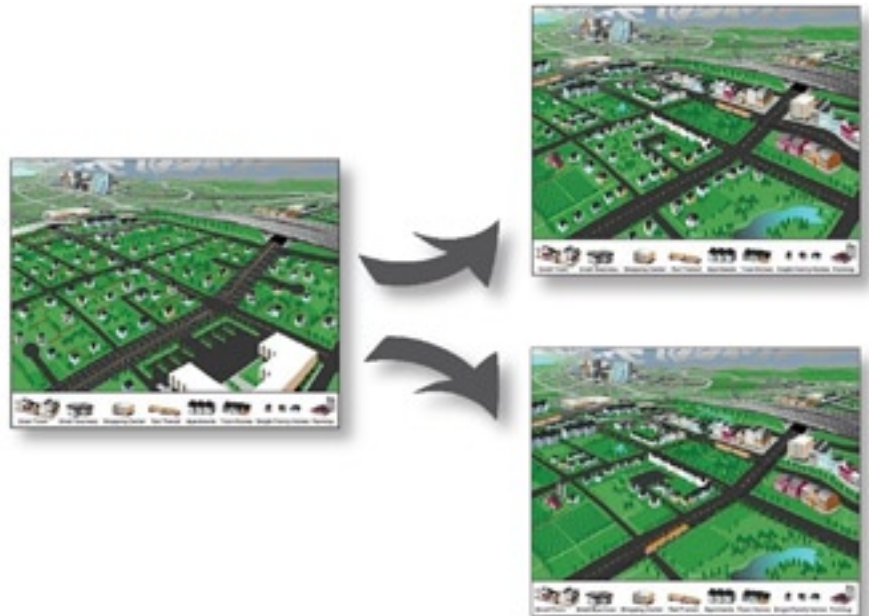
Once a preferred scenario is identified it can be shaped into a plan. A plan identifies a future that is desirable, a future that meets a community's criteria for effectiveness. A plan also identifies the variables that need to be understood in order to achieve the desired endpoint. It includes the strategies that will be effective in specific situations, benchmarks that monitor progress, and regular evaluations that provide for changes in strategies to match the changing situations.

Clearly scenarios provide for a better understanding of options than conventional planning, which tends to encourage thinking of only the desired outcome, blinding the user to other opportunities and pitfalls. On the other hand, this study is designed to develop three quick scenarios, and as such they will be approximate, only containing sufficient detail to find the extremes of feasible outcomes. While the conclusions for the purposes of this study are accurate, following any specific scenario through the planning stage should be preceded with a more thorough study of the assumptions and background data.

Project Scope

The scope for this study is as follows:

- Summarize past and current actions in the South Knoxville Waterfront area, and reach conclusions regarding the current conditions in the area, both strengths and weaknesses
- Look at the market conditions of the South Knoxville Waterfront and Knox County in general, focusing on the expected growth potential over the next 10 years.
- Develop and investigate three feasible scenarios for the south waterfront, and evaluate them based on their financial feasibility and their impacts on the neighborhood and the City
- Devise strategies for next steps based on the lessons learned from the scenarios—what are the best action to take to realize the continued development and improvement of the South Waterfront?



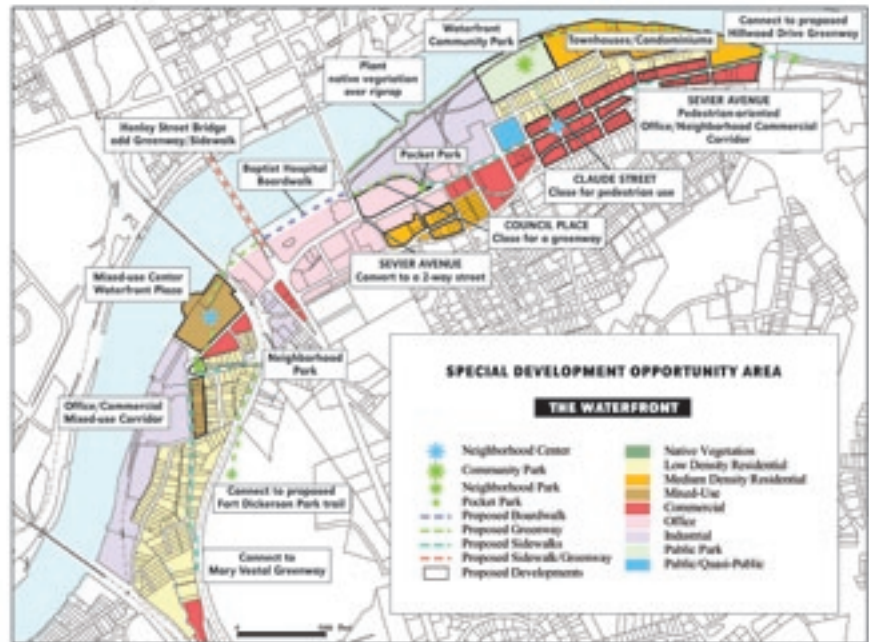
Knoxville South City Sector Plan



The area is subject to an MPC Sector plan, developed and adopted in 2001. It identifies this area as a mixture of commercial, townhouse, mixed use and industrial. It also identifies the southern waterfront as a “Special Development Opportunity Area”. Many ideas that emerged from a series of interviews and a charrette hosted by Fregonese Calthorpe Associates are represented in this plan.

The estimated capacity of the South Sector plan capacity is similar to this study’s “aggressive scenario” for housing, but is higher than the “moderate scenario”. One of the most notable efforts that sparks local memories was an attempt in 1992 to develop an urban renewal district. There were great concerns that properties would be acquired through condemnation. Local opposition arose and the initiative was abandoned by the City to refocus attention on waterfront development on the north bank of the river, immediately adjacent to downtown.

The South City Sector Plan



South City Sector Plan Capacity				
Zone	Acreage	Value	Units	Employees
Single Family Residential	45.9	\$ 7,200,400	267	
Townhomes	23.5	\$ 2,640,100	410	
Mixed Use (C-2 Zone)	9.3	\$ 1,725,500	272	
Office	45.9	\$ 7,200,400	1400	
Commercial	27.3	\$ 5,707,600		
FAR 1.05 (C1 Zone)				3301
FAR 6 (C2 Zone)				18,895
FAR 3 (C3 Zone)				9,432
Industrial	23.5	\$ 9,904,900		
FAR 3.2 (I-3 Zone)				6837
FAR 4 (I-4 Zone)				8547
Public	11.1	\$ 630,000		
Total	186.6	\$ 35,008,900	2349	10,138 - 27,442
1 Unit Equals:				
SFR units at 7500 sq. ft. at .75 FAR				
TWN units at 2500 sq. ft. at .9 FAR				
MU units at 1500 sq. ft. at 6 FAR				
Office units at 1500 sq. ft. at 1.05 FAR				

Existing Conditions and Perspectives

Interviews

As part of familiarizing our team with the area we met with 8 different groups representing a variety of perspectives. We interviewed the following groups over the course of three days from March 8 through the 10th:

Interview Participants:

- ✿ Raja Jubran, Denark Construction
- ✿ John Gumpert, Camden Management Partners
- ✿ Bryan Pickens, Baptist Hospital
- ✿ Bill Baxter, Holston Gas
- ✿ Sam Furrow
- ✿ Mike Conley
- ✿ South Knoxville Small Group Meeting (March 10th at City County Building—Council Member Joe Hultquist, Madeline Rogero, Ron Emery, Mike Wood, Rob Dansereau, Monte Stanley and Whitney Stanley)
- ✿ South Waterfront Neighborhood Meeting (March 9th at South Knoxville Baptist Church)



Bureaucracy

Depending on the number of agencies involved development in Knoxville can be very challenging. Some of the regulations along the waterfront require input from many different agencies and the time frames vary according to requirements. One first step should be addressing the archeological survey, required by the Tennessee Valley Authority. It should be completed for the entire waterfront at once in order to provide certainty to developers and reduce the intangible expense and time required for this phase of analysis.

Interviewees stated that plan review can involve several iterations which extends the required time as well as expense in the approval process. In addition, the inspection process can raise new issues that were not raised during the review process which can result in further delays as well as additional expense for the unanticipated requirements.

There was a division of opinion on the bureaucracy issue, however. Some developers stated that the Knoxville staff were indeed very helpful and complimented them accordingly. This mirrors general reactions to the plan review/permitting system, where experienced developers know the system and navigate it readily, while “first-timers” have difficulty because a clear step-by-step process is not readily evident.



Existing Conditions and Perspectives



Infrastructure

Existing roads, both capacity and extent, are limited. Additionally some constraints are tunnels under existing railroads. These can be costly to improve and should be undertaken as part of an overall infrastructure plan for the area. There are also limitations in sewers that will need to be rectified in the course of development. On the east side existing roads are generally in poor repair. Improvements and additional connections could upgrade their function. The hospital has stated that it is willing to donate land to improve function of the streets to their east.

Two rail bridges connect across the site, both on the west end. The east bridge is owned by Norfolk Southern and currently carries only two trains per day—one in each direction. The more westerly line is the CSX main line and carries up to 40 trains per day. There has been some discussion about purchasing the NS Line for some form of transit use in the future. On the north side it passes between the University of Tennessee campus and the downtown through Worlds Fair Park, it could be augmented to include additional connections through the downtown grid. To the South it connects to an Alcoa plant near the airport and to Maryville where it serves several industries. South of Maryville the right-of-way appears to be abandoned. With the abundance of vacant land along this route it could host significant transit oriented development.



Existing Employment

The Baptist Hospital is currently the major employer on the south waterfront. The hospital site is their flagship operation, but they have recently opened two new hospitals in the outlying suburbs where most population growth has occurred. At present there is an over-supply of beds in this location, and no further growth is planned until population in Knoxville catches up with supply. There are two other hospitals that share the same general area of town, and these have both recently expanded their facilities.

There are, however, some successful industrial employers that provide more limited, but stable employment. While there is a substantial amount of industrial land in active use, most of the operations are marginal and have located along the south waterfront primarily because of cheap land and lower rents than



Existing Conditions and Perspectives

are available elsewhere in the region. Only the asphalt distribution facility relies on barge access for their day-to-day operations.

The asphalt distribution facility is probably the most limiting land use on the east side because of the smell of the materials. It is also the most difficult to relocate because of its dependence on barge transportation as well as rail and roads. Locations outside the downtown are predominantly residential and would resist location of this land use.

The Holston Gas distribution facility, located immediately east of the Gay Street Bridge, has been in the same location for 40 years, and the owner is not anxious to relocate. He expressed willingness if offered a reasonable price for his land, and a new location with access to both rail and road. He does not currently use the river for transportation.

Existing Housing

There is a wide mix of housing on the South Waterfront. To the East is a mix of middle to low income housing in the vicinity of older industrial uses. This extends up the hillside that creates a natural boundary to the district. Some is excellent housing stock in good repair while others are small and poorly maintained. There are a number of multi-family buildings as well. The hillside sites could well redevelop as high-end homes if improvements to the district proceed.

On the west are primarily single-family homes of various ages and conditions. Along the river the lots are narrow but deep and, if assembled a few at a time, could provide substantial development sites.

New Development

There are currently two active projects under way on the west end of the study area. One is a condominium development at the far west edge comprising a 6-story building with units ranging from \$210,000-\$290,000. The existing glove factory is also under option with a proposed 3-phase development of condominiums and possibly a hotel. The archeological survey is just beginning on this site. Final site development plans will follow completion of the master plan for the South Waterfront.

Neighborhood Issues

Our meetings with the neighbors revealed a very involved neighborhood group full of energy and ideas. While they were very positive about encouraging new development in the area, they were also interested in preserving what they saw as critical neighborhood values. The sense of community, the historic buildings, and the existing residential areas are valued by these residents. They endorsed the redevelopment of Sevier Street in a way that



Existing Conditions and Perspectives



recalled its historic roles as a streetcar business district. Many were enthusiastic about participating in the neighborhood's revitalization as small investors. They were concerned about development and investors disrupting the existing neighborhoods, which they see as "turning the corner" with new owners locating in this area. They suggested a use such as a charter school to put the area on the map. They were very concerned about preserving existing vegetation, revegetating the waterfront, and increasing public access to the river.

Property Owners Waiting

We heard from many potential property owners and investors that they were waiting for a direction and leadership from the City prior to making investment decisions. While many see the potential for redevelopment, without what they perceived as a "vision" for the area and leadership from the City, they would either not invest in the area, or will invest based on current zoning and uses, mainly industrial and distribution uses on the shoreline of the Tennessee River.

Market Forecast and Absorption Potential

We examined recent data for the City and the County, and looked at forecasts for the next ten years. Based on these recent trends and the forecasts, we

developed estimates of the demand for office, retail, industrial and housing by type. This will be used to evaluate the feasibility of various scenarios developed for the South Waterfront. One of the criteria for any feasible development is that it cannot exceed a reasonable percentage of the Knoxville market. In addition to regional competition, the marketplace will demand a variety of location types, and the South Knoxville Waterfront will feasibly only attract a portion of the development opportunity in Knox County over the next 10 years. Therefore, the amount of development expected in Knox County operates as a significant constraint on the amount of development in the South Waterfront.

Housing Summary

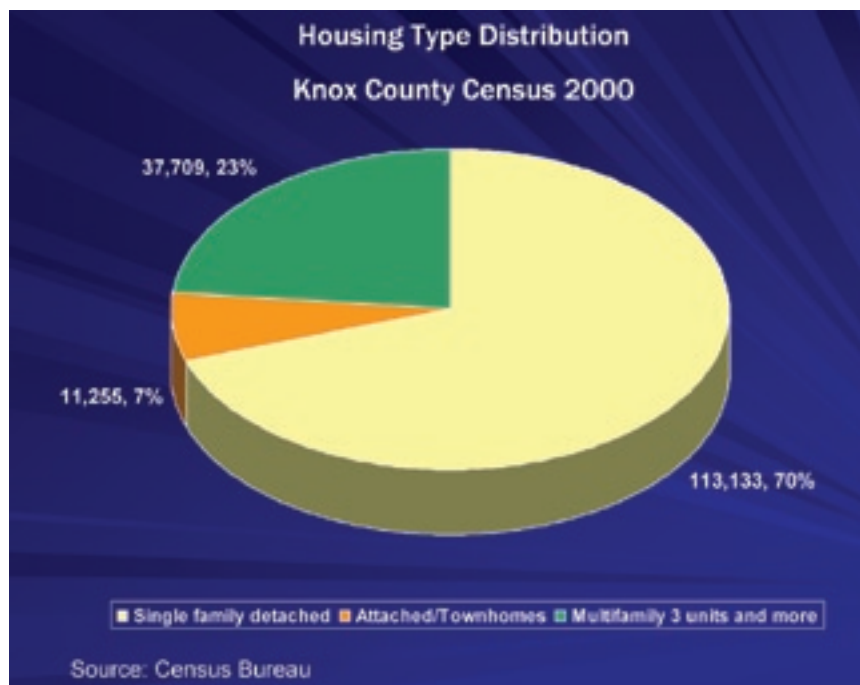
The feasible provision of housing in the South Knoxville Waterfront revolves around three basic types:

1. Condominiums developed in multi story developments;
2. Rental, multi family housing, some of which directed at the student population, and;
3. Infill single family housing, at relatively high densities. These typically develop in older neighborhoods through the re-subdivision of older lots. In some cases, the infill housing is attached single family (also called townhouse).

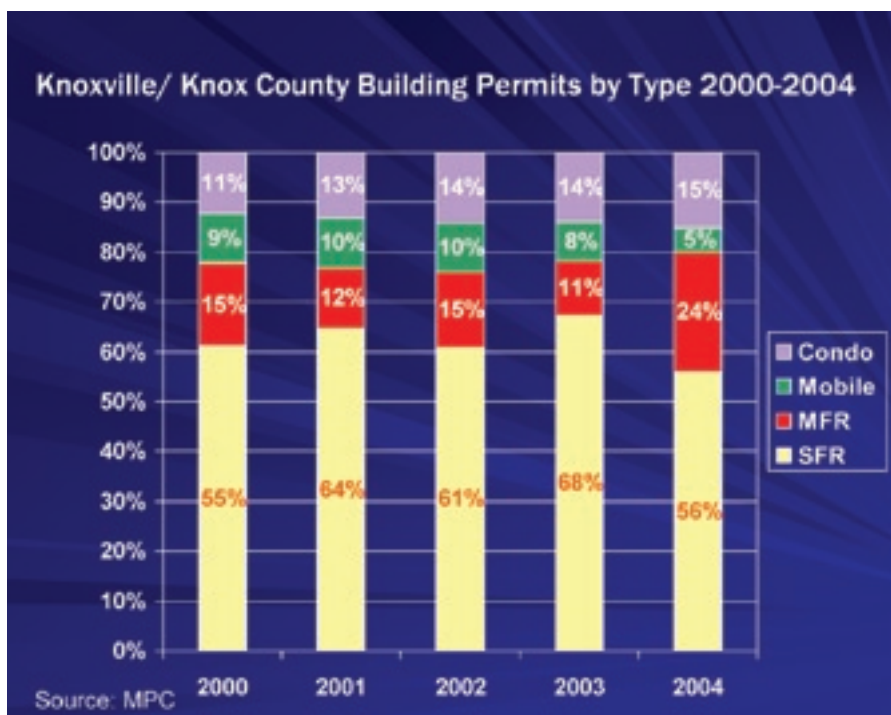


Recent Building Activity

In the year 2000, Knox County housing was comprised of 70% single-family, 7% attached housing, and 23% multi-family, according to the U.S. Census. However, recent activity shows this percentage changing somewhat, with a shift toward the condominium housing type.



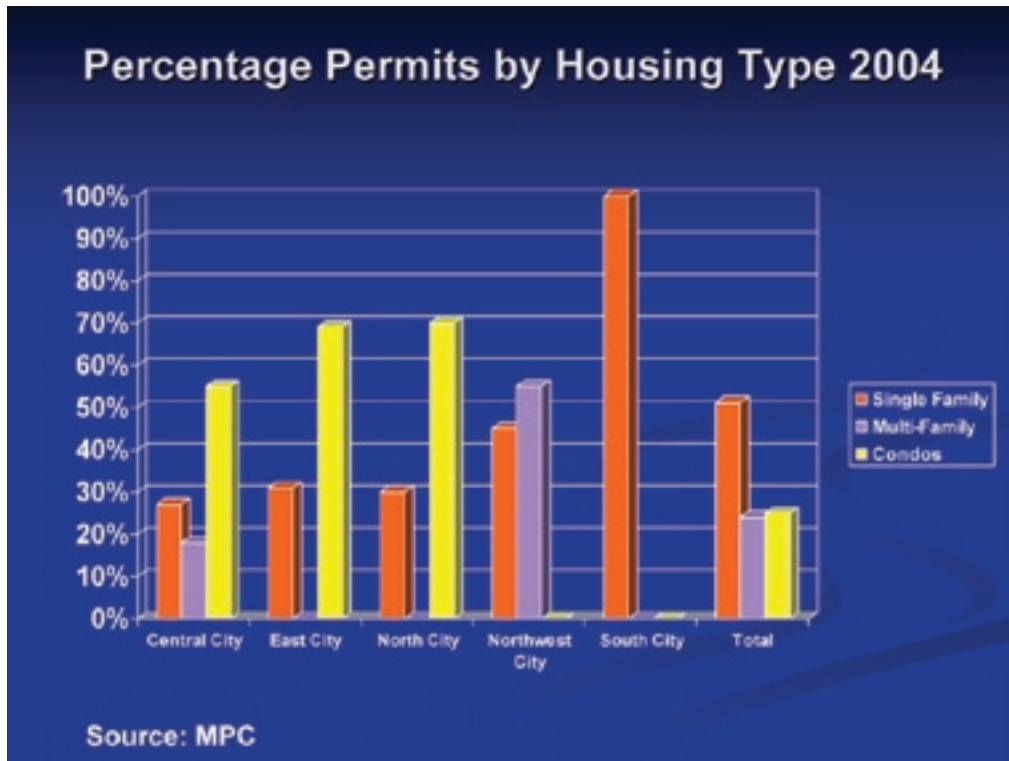
In the last four years, the condominium housing type has accounted for 11% to 15% of new housing products, with single-family accounting for from 55% to 68% of housing products. Multi-family is very volatile year to year, and in the last 4 years has been slow nationwide. This is likely due to low interest rates attracting many to an ownership housing type.



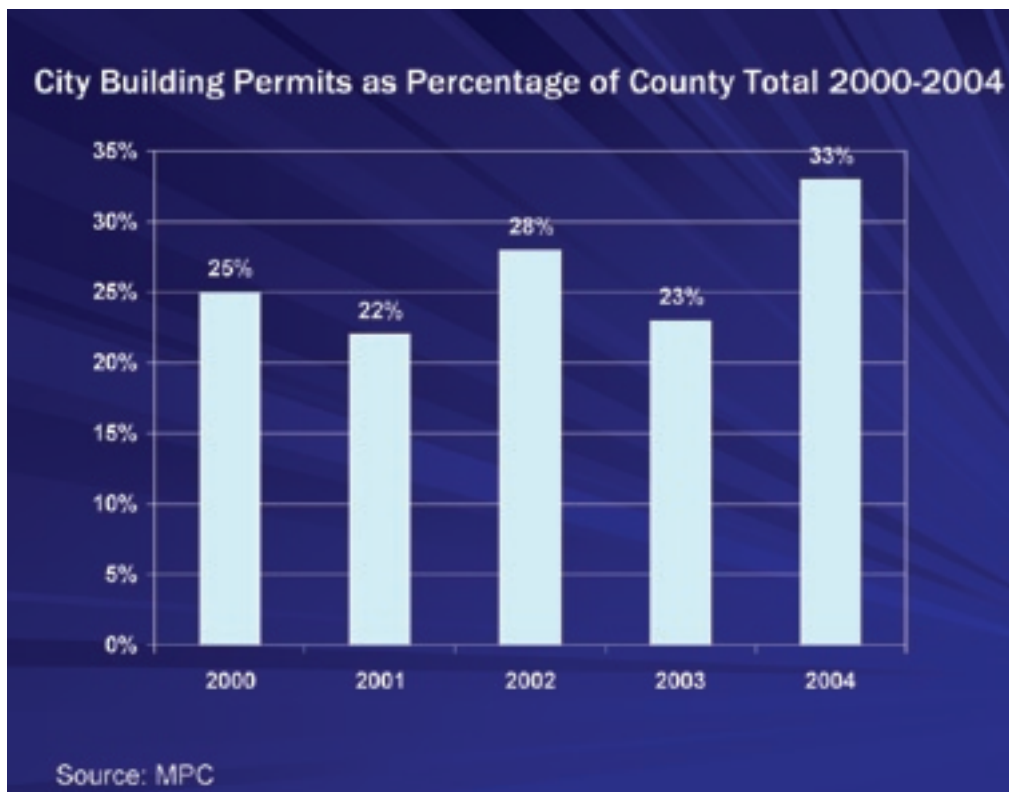
Recent Building Activity



In the City of Knoxville, condominiums account for about 305 units of recent housing activity; most condominiums built in Knox County are built in the City of Knoxville.

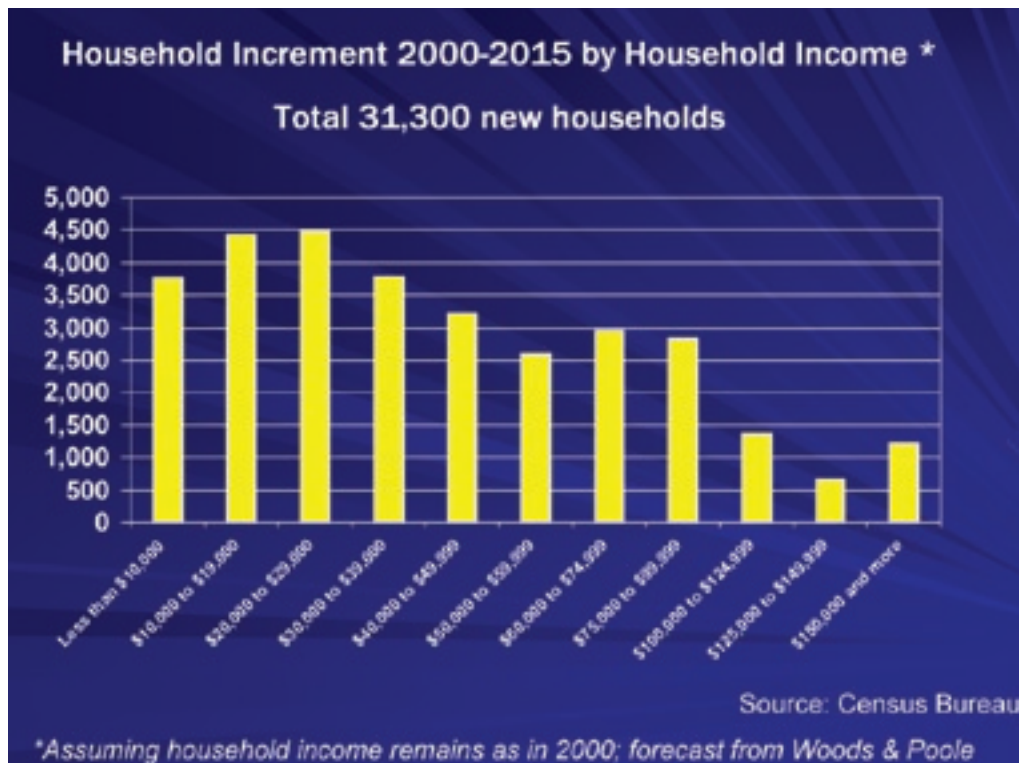


The City of Knoxville accounted for between 22% to 33% of new housing in Knox County, and the trend appears to be increasing over time.

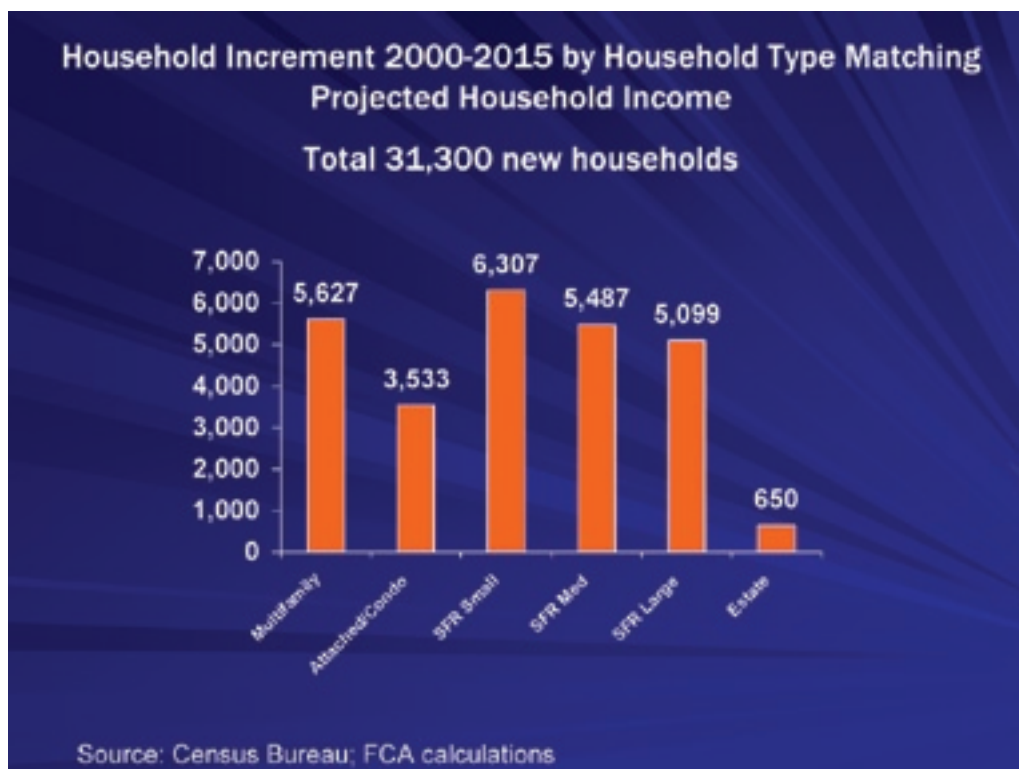


Recent Building Activity

We also developed a housing demand forecast based on expected income levels in Knox County. Assuming household income retains its current relative distribution over the next 10 years, Knox County can expect a growth of 31,300 new households in the next 10 years, distributed as follows.



Given current housing types and costs in Knoxville, we estimated housing types as follows:



Existing Conditions and Perspectives



Therefore, the estimated demand in Knox County in the next ten years is approximately for 5,600 new rental units, 3,500 new condominiums, and 6,300 new small lot single family, which is what most infill single family homes are. This is the pool of demand that the South Knoxville Waterfront will pull from. As an evaluation, we will report the percent of County demand that a scenario will require to be successful in the next 10 years.

Office and Retail Forecast and Recent Activity

We used a similar process for estimating demand for commercial building. Using Woods & Poole forecasts for Knox County, we developed demand estimates for employment. In the next 10 years, it is estimated that Knox County will grow by 38,000 new employees.

<i>Consolidated Forecast</i>					
Employment	2000	2005	2015	2005-2015	% Change
Total	271,900	291,210	330,070	38,860	13%
Agriculture/mining	5,040	5,330	5,990	660	12%
Government	37,110	37,190	37,480	290	1%
FIRE	19,030	20,960	24,830	3,870	18%
Services	85,890	97,000	118,120	21,120	22%
Wholesale	16,650	17,470	18,950	1,480	8%
Retail	53,050	56,900	65,200	8,300	15%
Manufacturing	23,750	23,210	22,460	(750)	-3%
Construction/transportation	31,390	33,150	37,050	3,900	12%

Using data from other similar regions on the amount of new floor space required to accommodate new employment, we estimated that Knox County will see 11 million square feet of new commercial construction over the next 10 years.

Building Type	Sq Feet per employee	Absorption into existing buildings	Expansions	New Construction	New Sq Footage
Office	350	10%	25%	65%	5,751,200
Retail	550	10%	25%	65%	2,967,250
Industrial/Manufacturing	750	10%	25%	65%	2,622,750
Total					11,341,200



Opportunities

Similar to the housing analysis, the commercial scenarios will examine what percentage of the regional employment demand the study area would absorb. In addition to competing with the rest of the region, the South Knoxville Waterfront also competes directly with the Downtown. Desirable Future scenarios should not develop the South Knoxville area at the expense of Downtown.

The following is a summary of the opportunities and constraints that affect the project site. These were used in developing the scenarios, however the constraints were not resolved to the level that a complete plan would be.

Opportunities

Among the key opportunities that we found are the following:

- Views. The South Knoxville Waterfront has wonderful views of the downtown and the river. In other cities, these are some of the best opportunities to develop infill projects. Developed correctly, properties with views such as this are especially appealing for housing, office, and specialty retail such as restaurants. They also provide opportunities for waterfront parks and recreation areas.
- Access to water. The potential direct access to the Tennessee River/ Fort Loudon Lake provide for a further attractor to investment, especially if that access is developed better than it is today.
- Access to downtown. The site's direct access to the downtown is an asset for housing and office development
- Access to UT. Proximity to the University of Tennessee is another asset for development, for housing directed to students, faculty and staff, to retail and services for this population, and to offices that may be associated with University research and activities.
- Historic Sevier Avenue and industrial area. The Sevier Ave commercial area provides a unique setting for a revitalized main street commercial area. In many cases, former industrial working districts have been the site of loft conversions and main street retail districts that provide specialty retail and entertainment to a wide area.
- Low value parcels. The property values are low enough that they do not form an overwhelming obstacle to redevelopment.

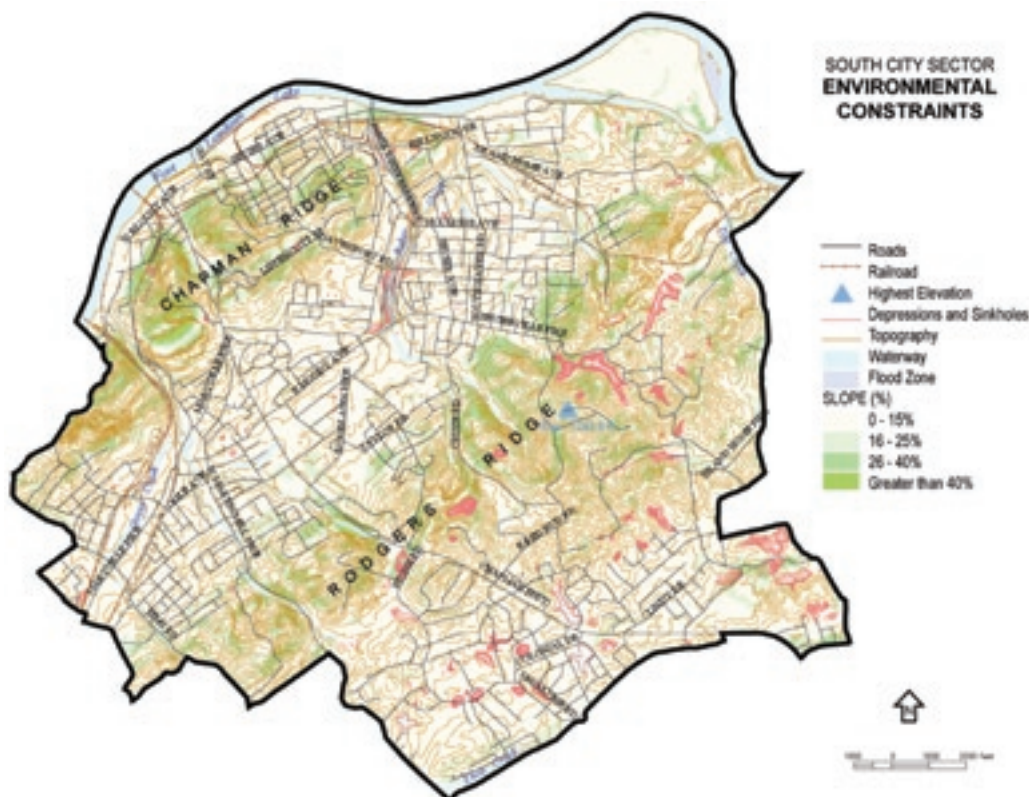


Constraints



The following constraints will affect and limit development in the future.

- **Slope.** While the immediate waterfront is fairly flat, the area south of the waterfront, Chapman Ridge contains significant slopes. Generally slopes greater than 10% to 15% limit large commercial developments, and slopes above 20% limit the development of higher density residential development. Exceptions do occur, where the aesthetics and views obtained justify the higher costs, where the geology is stable, and where environmental concerns can be mitigated.
- **Floodplain.** The Tennessee River 100-year floodplain is only slightly larger than the shoreline of Lake Fort Loudon; however the 500 year floodplain is what is used as the regulatory boundary. Within the South Knoxville Waterfront area, this boundary covers 36 acres, and affects 123 parcels. The eastern side of the waterfront area is more constrained by the floodplain than the west. Within the floodplain, new habitable construction is not allowed below the floodplain. Any construction below the floodplain cannot displace water, and must be an open structure without substantial improvements. This is a crucial limit to development within the floodplain area.
- **Archeology.** The South Knoxville Waterfront has numerous archeology sites, and is rich in undiscovered sites that range from pre history to Civil War. Prior to development, an archeological survey needs to take place, which can take months with significant costs associated.
- **Access and Circulation.** The South Knoxville Waterfront site has poor access from the region's roads, has poor visibility from the roads, and has poor internal circulation. The rail lines underpasses severely constrain road width.
- **Industrial Uses.** While manufacturing uses are not severe constraints, several heavy industrial uses on the east side, notably the asphalt plant, the gas storage area, and the propane storage tanks can have a chilling effect on non-industrial uses locating in proximity.



Development Program Scenarios

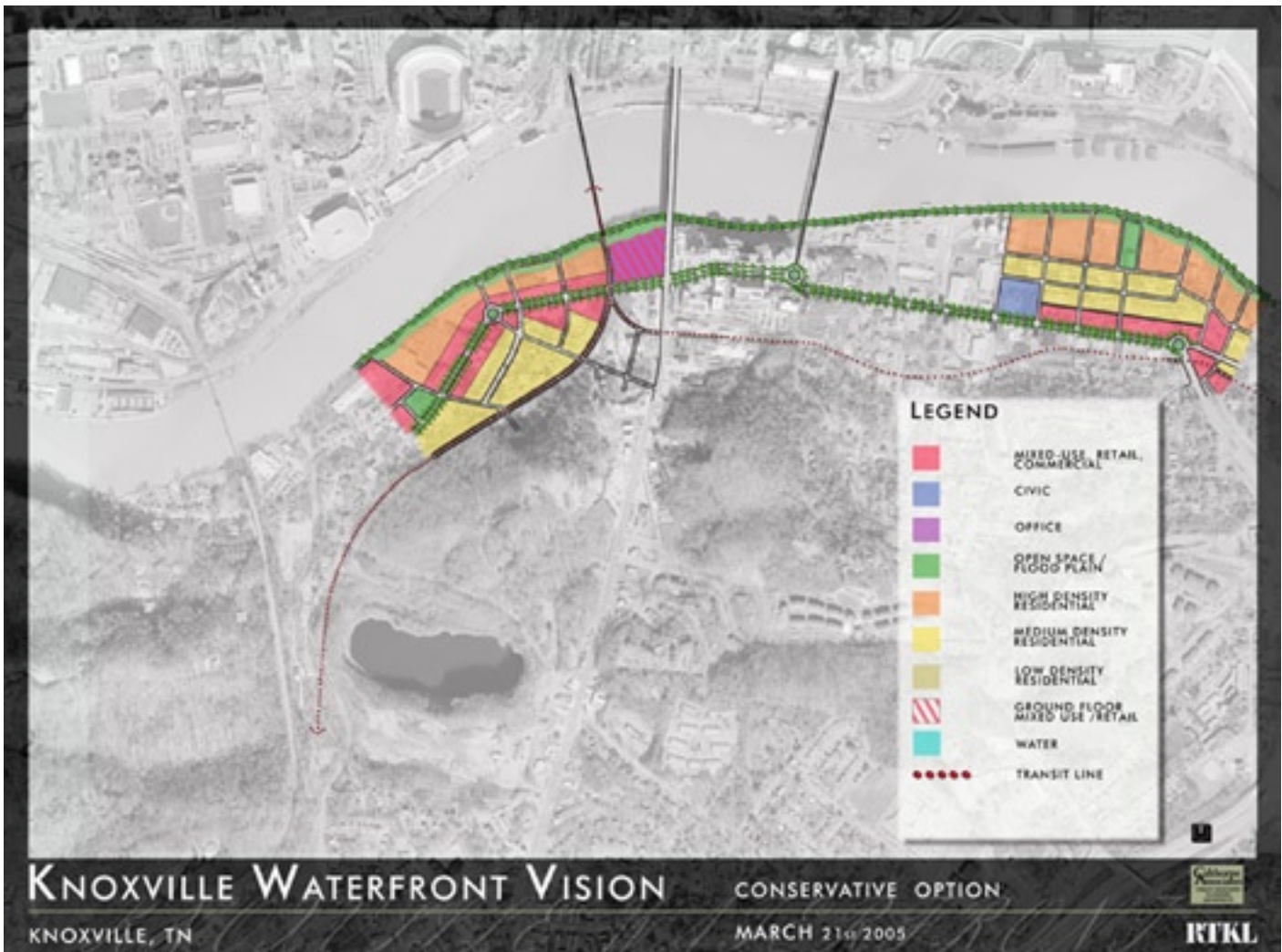
After observing the site, we conducted a day-long charrette to develop three scenarios for further analysis. These range from a fairly conservative scenario with two major projects, to an aggressive scenario that develops the entire south waterfront area. These scenarios share many common features in the basic road system, and can be considered three different phases over time.

Conservative

The Conservative scenario develops two thirty acre sites, builds basic road and infrastructure, develops a waterfront park, and envisions the beginning of a

Regional growth 2005 – 2015	County Growth	Scenario	Percentage of County
Rental	5,600	235	4%
Condominium	3,500	595	17%
SM Single Family	6,300	99	2%
Commercial Development	11,000,000	237,304	2%

Sevier Ave mainstreet program. The development program for this scenario calls for 900 units and 230,000 square feet of commercial development, as described by the following table. While some participants did not consider this development scenario conservative, all agreed it was conservative within the context of a 20 year time frame.



Development Program Scenarios



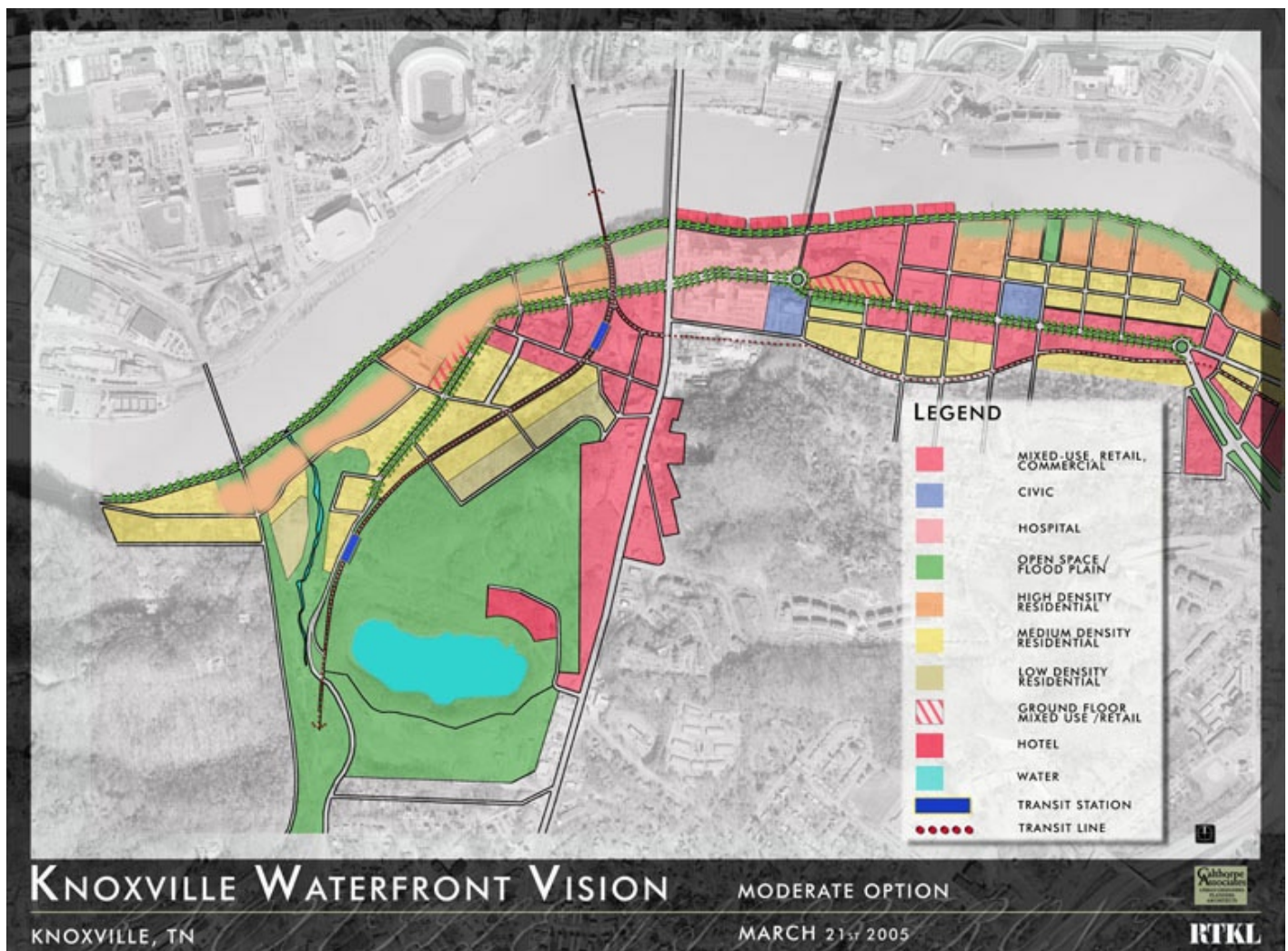
Moderate

The medium scenario foresees development throughout the area, however the infill rate is low—only 75% of the planned commercial areas develop, and 50% of the infill housing sites. The hospital remains and expands its facilities. In this scenario, major waterfront facilities are developed. In addition, the entire waterfront park is developed,

and the full road system is developed.

This scenario develops 1,800 new units and 1 million square feet of new commercial buildings. Within the context of a 10 year time frame some participants considered this scenario more aggressive, however, over a 20 year time frame this development scenario remains moderate.

Regional growth 2005 - 2015	County Growth	Scenario	Percentage of County
Rental	5,600	369	7%
Condominium	3,500	816	23%
SM Single Family	6,300	431	7%
Commercial Development	11,000,000	1,006,704	9%



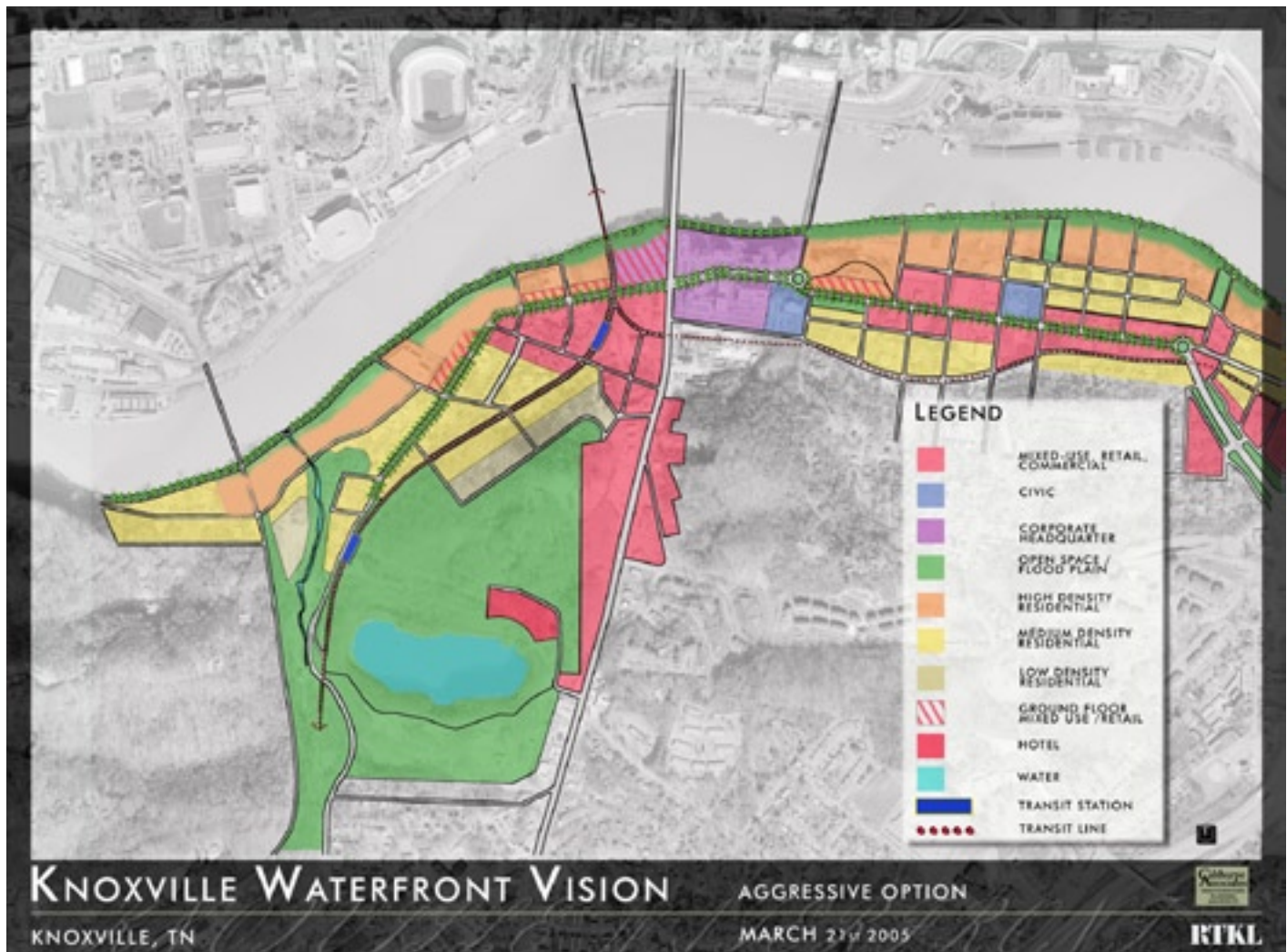
Development Program Scenarios

Aggressive

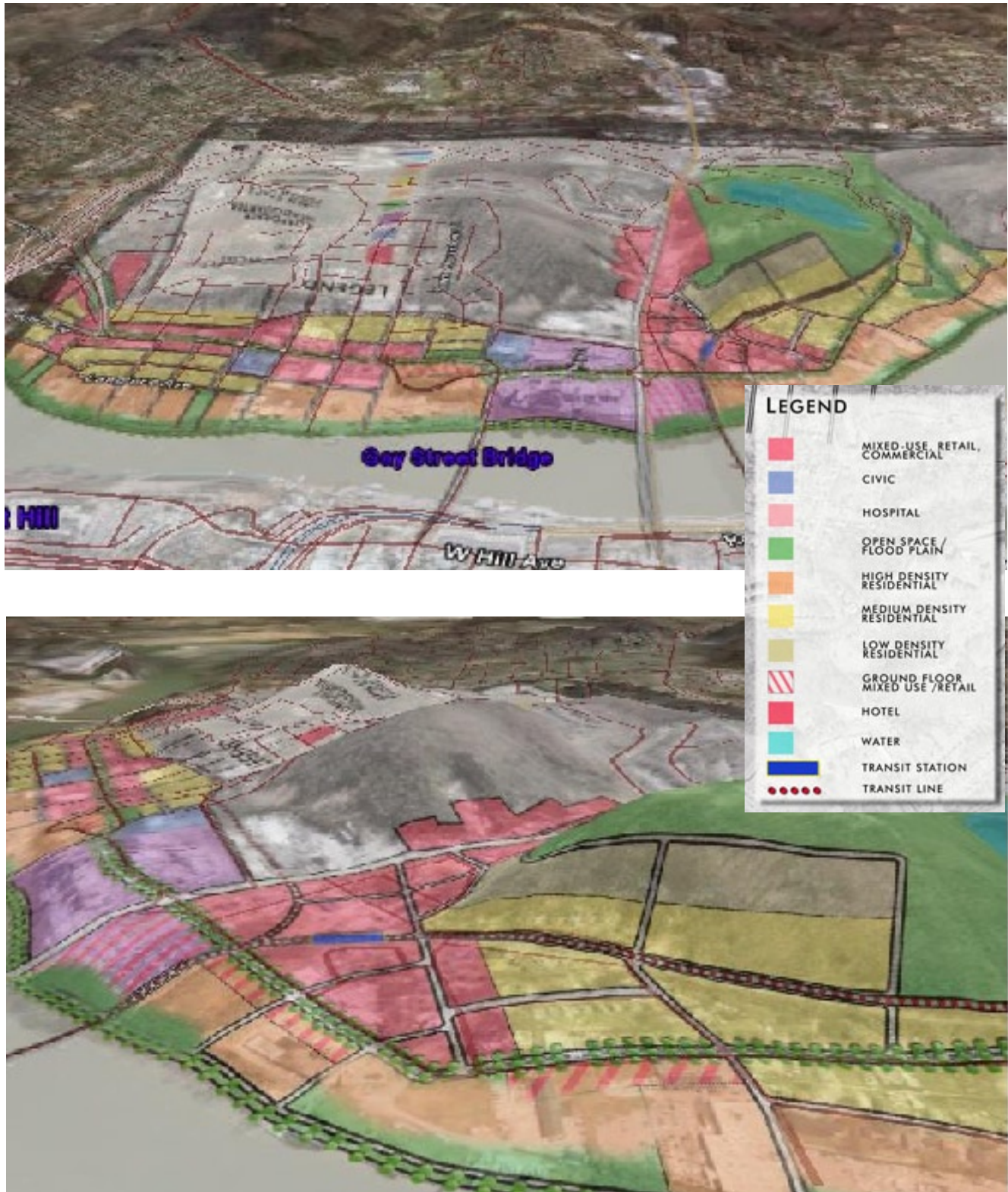
The aggressive scenario foresees 90% of the planned areas redeveloped. The plan includes extensive renovation of the existing developed areas as well as the more vacant lots along the river. The quarry in Fort Dickenson becomes a recreational facility, and a new boutique hotel is located overlooking the quarry lake. The hospital is replaced with a major corporate headquarters, providing a strong anchor for the area.

The development program for this scenario includes 2,600 new units and 1.5 million square feet of new commercial buildings.

Regional growth 2005 – 2015	County Growth	Scenario	Percentage of County
Rental	5,600	543	10%
Condominium	3,500	979	28%
SM Single Family	6,300	777	12%
Commercial Development	11,000,000	1,531,909	14%



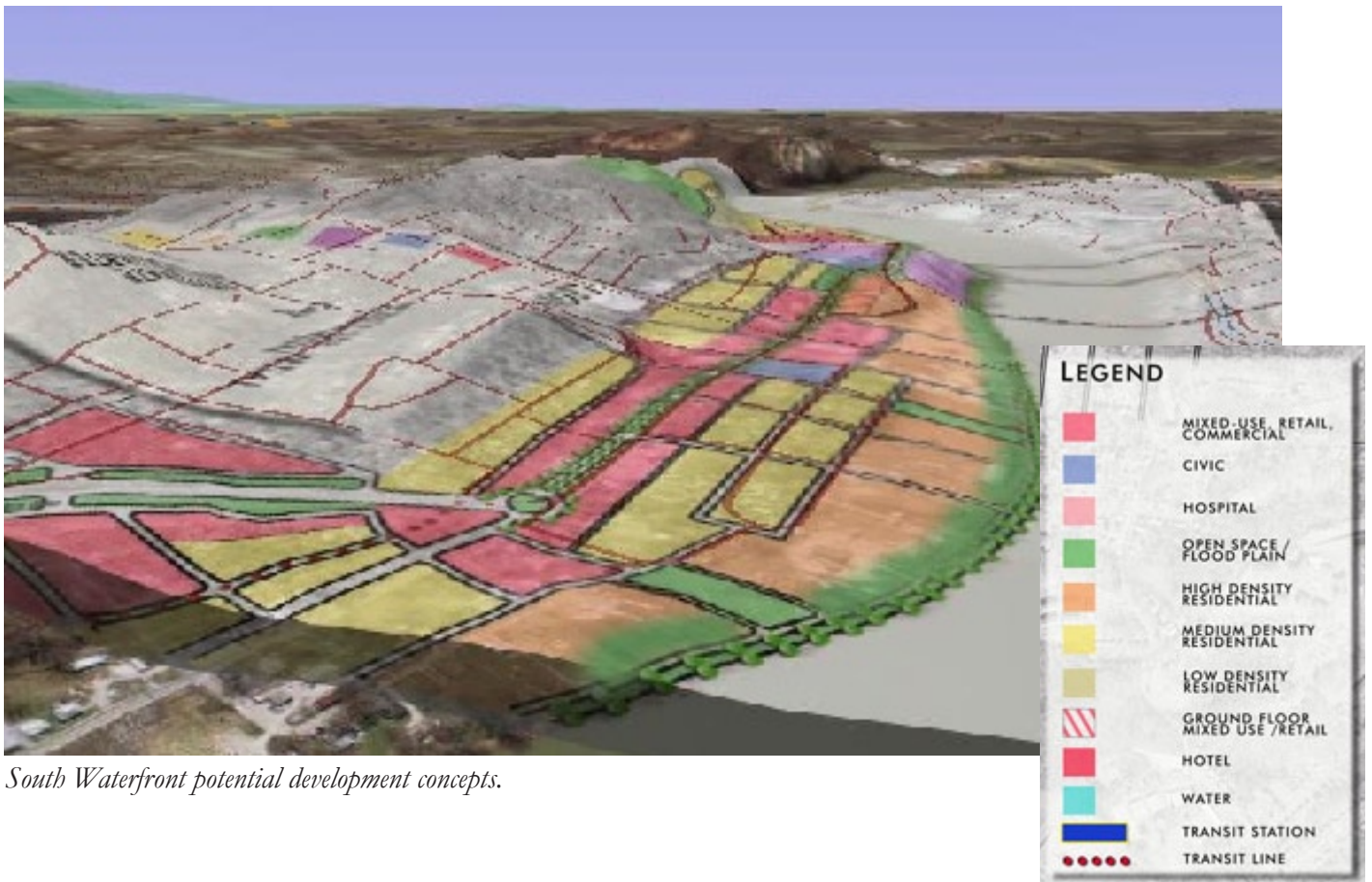
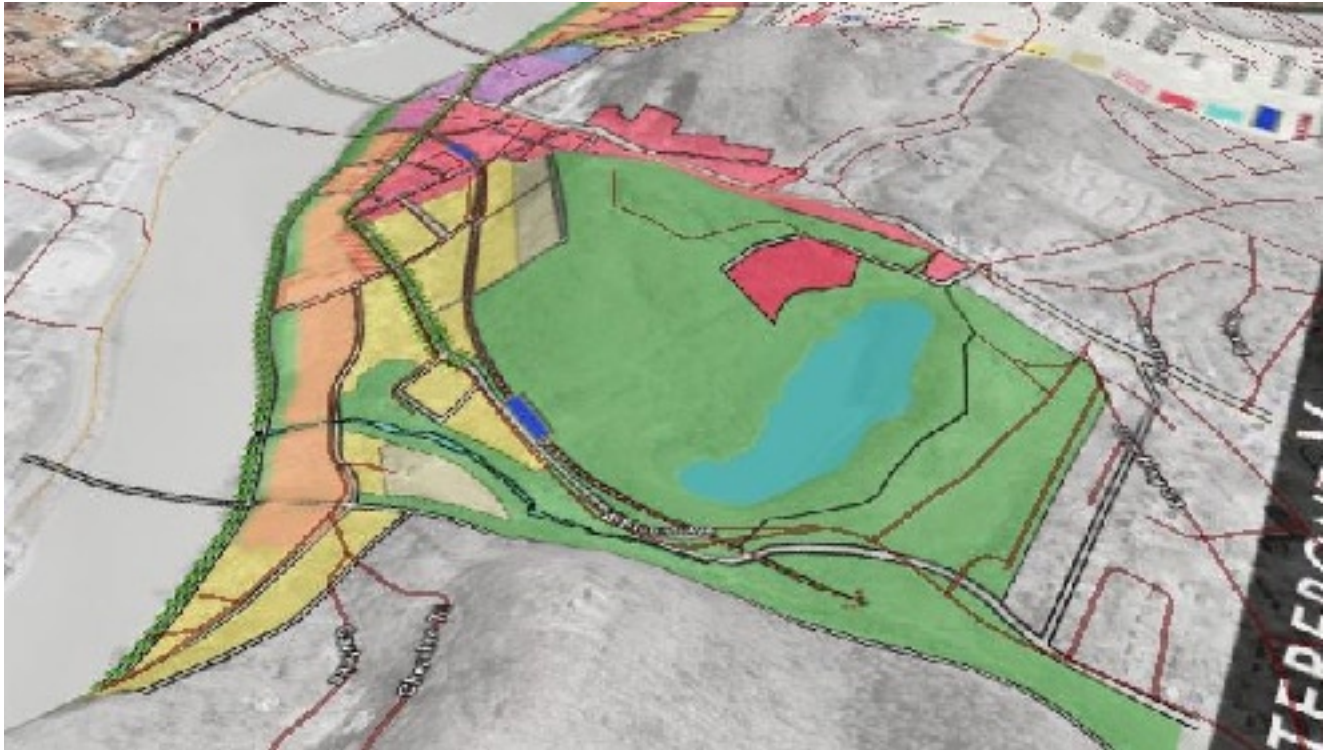
Existing Conditions and Perspectives



South Waterfront potential development concepts.



Development Program Scenarios



South Waterfront potential development concepts.





Size and Absorption issues

One of the key lessons learned is that the South Knoxville Waterfront area is really quite large. When an aggressive scenario is modeled, the total development program would absorb almost all of the Knox County growth in the condominium market for the near-term, and a substantial amount of the rental, office, and retail demand. While this is possible, it is not the most likely of occurrences. One of the key lessons is to devise a strategy that depends on a modest development program, one closer to the small scenario described above. This is quite feasible in the next ten years, as the South Knoxville Waterfront is one of the best places in the region for condominium development, is a proven market for rental housing, and with time and additional population, will develop modest markets for office and retail. Should the development accelerate, the other two scenarios will provide guidance as to the impacts and benefits of an accelerated program. Any master plan for the area should be developed in phases, with the smaller phases “nested” in the larger phases—that is, able to fit in seamlessly. The smaller scenarios are also far more likely to represent a lower risk than the larger, more elaborate scenarios.



Access Limitations and Master Street Plans

The Scenarios range from just under 1,000 housing units and 1,000 new employees to over 2,500 new housing units and 4,000 employees. The peak hour traffic generated by these new uses could range from 2,000 trips to 6,500 trips. With most intersections having a capacity of fewer than 1,000 vehicles per hour per lane, accommodating this traffic will be one of the major challenges. While the smaller scenarios can probably be accommodated with improvements to existing connections, the larger scenarios will require consideration of new access points as well as improvements to existing ones.

In addition, this will require substantial circulation on site—we estimate that from 2 to 6 lanes on east-west roadway capacity will be needed, as well as other internal circulation requirements. The current street system will be inadequate. While the new streets can be phased in as the area develops, it will require a master street plan and dedication and improvements phased with new projects. We recommend that this street plan consider the urban design, and be set up to accommodate the pedestrian traffic anticipated.



Lessons Learned

Larger Scale Transportation Issues

One of the key findings of the scenario development is that the transportation issues may be partially resolved by improvements outside of the immediate study area. The most obvious are the inclusion of the Fort Dickerson area and areas south in the resolving access issues for the western half of the project area. In addition, Cherokee Ridge, while relatively narrow, can be an important reliever. Access to the airport will be important for the larger scale scenarios, as will high quality transit access



to the downtown. While not an immediate need, the connection to the South Knoxville Waterfront should be identified, and transportation solutions to this area should be considered at a larger scale.

Transit Systems

Many parties were interested in developing a transit connection to the downtown. Concepts centered on using the short line track for access, and either a light rail or Diesel Multiple Unit (DMU) as a vehicle. Another concept is for a streetcar system to be developed for the roadway using either the Gay Street or Henley Street bridge.

It appears to us that a rail system would be unfeasible except as part of a regional system for the following reasons:

- ✶ In order to run a transit service and keep the freight rail service running forces a decision to use heavy rail equipment—commuter rail type cars.

- ✶ Commuter rail is intended for suburban to central city trips.

- ✶ Using this equipment to connect the South Waterfront with downtown would not be as cost effective (i.e., for the transit service) as urban transit circulators—bus, minibus, LRT, streetcar, trolley-bus.

Other options are:

- ✶ Transfer the rail freight to another rail line or draw it by truck to and from customers and use the short line ROW for an urban circulator such as LRT, streetcar, Mini-bus (see Lymmo in Orlando, Chattanooga Downtown Electric Shuttle); or continue Knoxville's red line trolley bus across the river.

- ✶ Avoid using the short line track and extend the existing red line trolley bus across the river—maybe build a market that could make streetcar or LRT viable in time.

We believe that upgrading the Red Line Trolley Service to the Chattanooga standards, and using a similar electric bus should be investigated in partnership with the downtown. The extension of a shuttle bus, on 10 minute headways could be an attractive addition to the area master plan.



Return on Investment

We analyzed the potential return on investment for a proposed development on the west side, near the existing Glove Factory.

We found that if property could be acquired for 125% of its assessed value, and development costs were similar to new project costs elsewhere in Knoxville, the development of condominiums was the most attractive option. Example 1 shows a basic return on investment calculation for a project that is a mixed use, 85% condominium and 15% retail using inputs of \$151 per square feet sale price for condominiums, and \$18 per square feet for both retail and office space. This example yielded a 11.4% return on investment suggesting a viable development opportunity. To test the viability for development using a more conservative rent inputs, example 2 shows the return on an investment for \$1.25 per square feet of apartment, \$16 for retail, and \$15 for office space. Example 2 yields a 8.4% return on investment suggesting that apartments can be developed but developers would be more attracted to condominiums as long as the market is attractive.

In running multiple scenarios, we found that retail and office can also be attractive if the market is there. However, this area is currently considered to be a poor area for investment in these sectors, due to lack of demand arising from a lack of visibility, access, and the surrounding properties. Rental housing is also feasible but significantly less attractive than condominiums as indicated by the two examples. Our conclusion is that housing, specifically condominium housing, could lead development and build market for retail and office uses. Increasing the attractiveness of the area for retail and office would lead to increased investment in this field as well.

Example 1.

Physical Inputs	
Lot area	1,306,800
Maximum height, stories	3
Landscaping percent	20%
Under-build	100%
Area per parking space, sq. ft.	350
Levels of above ground parking	1
Levels of below ground or structured parking	0.5
Financial Inputs	
Construction Costs Per Square Foot	
Residential	\$ 100
Retail	\$ 80
Office	\$ 120
Existing Property Value	\$ 4,950,000
Estimated Lease And Purchase Prices	
Apartment Rents (Monthly)	\$ 1.60
Retail (Triple Net lease)	\$ 18
Office (Triple Net lease)	\$ 18
Residential purchase price (per square foot)	\$ 151
Annual Return on Investment (ROI) =	11.4%
Capital Investment Assumption	30.0%
Annual Return on Capital	38.2%

Example 2.

Estimated Lease And Purchase Prices	
Apartment Rents (Monthly)	\$ 1.25
Retail (Triple Net lease)	\$ 16
Office (Triple Net lease)	\$ 15
Residential purchase price (per square foot)	\$ 118
Annual Return on Investment (ROI) =	8.4%
Capital Investment Assumption	30.0%
Annual Return on Capital	28.1%



Tax Increment Finance Potential

We developed a basic Tax Increment Finance (TIF) scenario for the above project. Based on the existing assessed values, and using the current tax rate, this project would generate about \$1,000,000 dollars of annual Tax Increment.

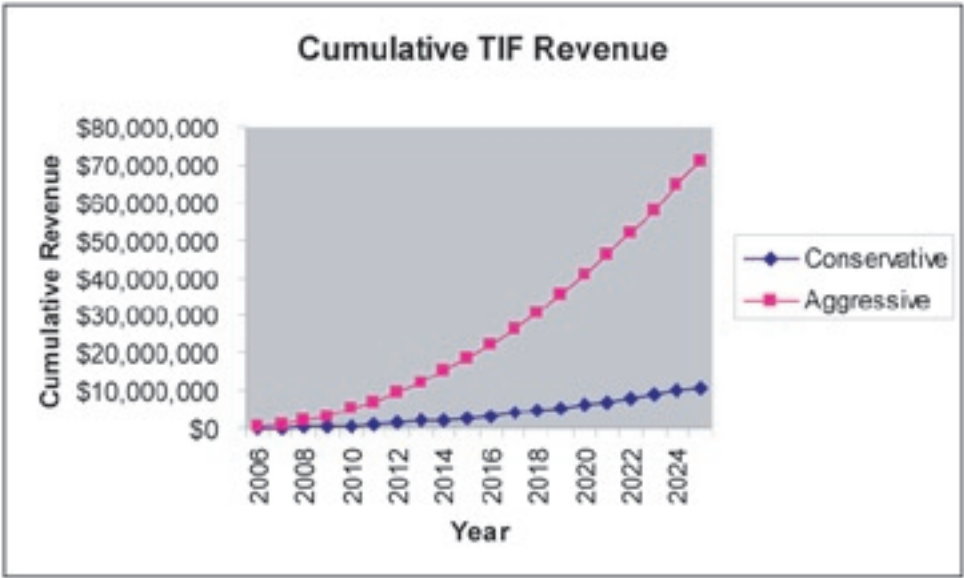
We also estimated the amount of public infrastructure this are would require. We assumed approximately 4,000 feet of new roads would be required, along with sewer, water, and storm drainage. The street improvement would be of high quality, with wide sidewalks, street trees, pedestrian lighting, and upgraded surfaces. We also assumed that the project would require a 200 space parking structure, a waterfront park (acquisition and development) and widening of the railroad trestle. This would cost approximately \$8.9 million dollars. If the TIF revenue was used to secure tax increment bonds to pay for this infrastructure, it would require an annual payment of \$654,000, about 65% of the TIF income.

We expanded this analysis for the aggressive scenario, and found that, at buildout, the area would generate an annual tax increment of \$6,500,000. Assuming that the project took 20 years to build out, it would generate a total of \$71 million dollars. Expanding the infrastructure costs to the entire site, the total public infrastructure would cost in the vicinity of \$45 million dollars.

Of course the problem is that the revenue is maximized at the end of the project, while the costs

are needed at the beginning. However, assuming a 20 year buildout, a TIF district established over the entire area would develop significant income throughout the project. This has proven a very important source of funds for many successful redevelopment areas; however is not the method that has been followed by Knoxville in the recent past.

Phase I - West Area Analysis						
	New Development			Existing Development		
	Residential	Commercial	Parking	Total New		Difference
Property Purchase						
Construction Cost	\$72,996,000.00	\$9,360,000.00		\$82,356,000.00		
Market Value	\$99,540,000.00	\$14,040,000.00		\$113,580,000.00		
Appraised Value	\$84,609,000.00	\$11,934,000.00		\$96,543,000.00		
Assessed Value	\$21,152,250.00	\$4,773,600.00		\$25,925,850.00	\$4,800,000.00	
Taxes Generated	\$1,078,764.75	\$243,453.60		\$1,322,218.35	\$288,480.00	\$1,033,738.35





Limitation of Small Lot Consolidation

While the area has a combination of large and small lots, the aggressive development scenarios would require the consolidation of many small lots to make a development feasible. The middle scenario assumed that some project would be large developments with values of \$100,000,000 or more, while much of the other development would be on fairly small parcels, with project values of from \$1 million to \$10 million. This combination is easier to achieve, and considering the aggressive scenario relative to the region's ability to absorb the development, both more feasible and better able to react quickly to improving market conditions. Needless to say, it is a lower risk strategy to limit any property consolidation activities to the 10 to 30 acre size, and provide zoning, infrastructure and incentives to smaller private sector projects.



Recommended Strategies

Short Term or Low Risk Strategies

Based on the interviews, analysis, and scenario development we have undertaken, we would make the following recommendations for development in the short term—in other words, these actions should be taken in the next year to 18 months.

Develop South Knoxville Waterfront Vision and Master Plan

One of the common elements of agreement among all the parties interviewed is that they are looking to the City to provide leadership through the development of a vision and plan for the area. In addition, some of the tax increment financing schemes outlined in this report would be most effective if the TIF district is established in advance of major development.

This plan should be action oriented, and build on the South Sector plan, existing neighborhood plans, and current development activity in the area. We do not believe that an extremely detailed and expensive master plan is the best option—rather the plan should establish

strategies in the area. It might be beneficial to include session(s) with local or regional developers who could add reality to plans, and potentially increase their interest in new development. It should be based on the many plans already done to date, and the information gathered by this study. It should cover the following subjects:

Plan Map of Uses and Zoning

The basic plan should be a revised map of future uses, and appropriate zoning to allow this. In many cases, new zoning codes should be developed that will guarantee the uses anticipated, and ensure that the zoning requirements are market sensitive and realistic in regards to development standards. As a largely urban infill project, the future zoning will require sensitivity to the financial realities of infill development. At the same time, zoning should protect against expansion or location of incompatible uses.

Urban Design Guidelines

The plan should contain urban design standards and guidelines for new development in the various use districts. This will be an important element in delivering the kind of projects that are envisioned in the plan. One of the concerns expressed by investors and neighbors alike is the ability to maintain a consistent quality of urban design in buildings and uses.

Economic Forecast and Market Plan

The forecasts and market analysis we provided in this study are only approximate and suitable only for scenario development. The plan should include a market forecast and development strategy that will delve more deeply into market segmentation, market stability, and development absorption.

Internal Transportation Plan

One of the key elements is an internal transportation plan. As mentioned above in



the vision for the area and take actions that will allow for the development in the area to evolve over time, as the market success of various projects is tested in the market. This plan should be developed rapidly, in the next six months, and include a charrette or workshop process in order to involve the various parties in the design and

Recommended Strategies



lessons learned, this area will be constrained by its transportation system. The answers to the future transportation system are important for investors and neighborhoods alike. Even the smallest scenario would render the current street system inadequate. Planning, developing, and building this system is of critical importance. Therefore, the master plan should develop a new street network plan, sized to the expected development, and develop the basic traffic engineering that will provide connections to the arterial system of the County, and adequate internal circulation.

Streetscapes

One of the most important elements in the new transportation plan will be the design of streets. The streetscapes envisioned in the scenarios are typical of high quality pedestrian friendly urban designs—wide sidewalks, street trees, on street parking, pedestrian scale lighting, slow traffic speeds, and high quality surfaces in key locations. These streets are fairly expensive, employing a livable street cross-section with 14 foot sidewalks costing about \$1,400 per linear foot (all costs). The street types need to be designed with context sensitive issues in mind. Designing around the multiple roles these streets will play is also important. In these kinds of areas, streets are more than traffic conveyances; they are pedestrian ways, outdoor living rooms, social gathering spots, outdoor dining areas, and providing many additional functions. While some street cross-sections would run more expensive others areas not needing as many streetscape treatments could be priced closer to \$1,000 per linear foot.

Public Utility Service

While minor in comparison to the development of the street system, other utility expansions such as water, sewer, and storm drainage should also be included. In addition, facilities such as cable and high speed internet access should be investigated.

Create TIF District

We believe that the creation of a large tax increment district across the entire South Knoxville Waterfront should be investigated. The funds that would be generated could be used for a variety of improvements, and would help provide a dedicated source of funds for much needed capital improvements.

These funds should be subject to a short term urban renewal budget that has a variety of activities, including street improvements, other capital improvements, property acquisition and consolidation, direct project assistance, small scale grants and loans for façade improvements, and the development of a waterfront park.

Direct project assistance should be the given only as “gap” replacement, with a project’s pro forma being subject to a public benefit test—that is, there should be a net public benefit for the direct project assistance.

Schedule Critical Investments in the CIP with TIF and other Funds

Several critical improvements should be included in the Knoxville Capital Improvements Program. In the early years the TIF district will need catalytic improvements funded from other sources, even if they are loans from other funds. The Plan and the first catalytic projects should be used to identify the early improvements. These should begin to make key transportation investments, develop waterfront access and amenities, and provide for area wide development assistance such as archeological surveys and flood plain realignment. If a decision was made to establish the district at the start of the planning phase, and incremental increases were “banked” prior to the start of major public improvements, this fund could build a nest egg, partly offsetting the problem noted above where major public expenditures predate major increases in tax generation from subsequent development.

Recommended Strategies

Develop Sevier Main Street

We found one of the most charming areas, with some of the best unrecognized potential in the Sevier main street area. With a small investment in streetscape and transportation and minor assistance in storefront improvement, as well as true main street zoning and urban design standards, this area could be an early spark to revitalizing interest in this area as an in-town neighborhood jewel. As other early developments are likely to be master planned, this area would provide a unique historical alternative, and one that recalls the areas rich history as a working waterfront and manufacturing area.

Develop 20-30 Acre Catalyst Project on East and West Side

In our interviews, it appears that there is substantial interest in developing a 20 to 30 acre sized development on both the east and west side. An early strategy would be to convene a group of interested investors and become an active public partner in moving the development agenda ahead on both these projects. It is a fairly safe bet, in our assessment, that at least one of these projects could begin and develop on a 5 to 7 year time frame with assistance and partnership from the City. However, the tools available to the City should be determined before the City becomes active in development assistance.

Facilitate the Relocation of the Asphalt Terminal and Tank Farm

Of all the variety of uses in the South Knoxville Waterfront area, the asphalt terminal is by far the use that will have the most chilling effect on new development. While on the site, there was a release of a fairly strong smell. While this may be a rare occurrence, it could hinder residential and mixed use development, as well as any recreational use of the waterfront. The propane tank farm is less of a concern, but concerns about liability regarding spills and leaks might prevent or make difficult development nearby. Of the two, the tank farm

is easier to relocate as it depends on truck access. The asphalt terminal would need continued barge access, and will be more difficult to relocate. However, this should be a high priority to identify and provide assistance to these two businesses to relocate out of the area.

Identify Water Use Areas and Reach Agreement with TVA on Areas and Parameters

One of the common ideas for development of the area is to provide more waterfront access and to develop marinas, docks, and small floating stores and restaurants on the south shore of the Tennessee River. However, the existing barge traffic will probably limit the location of future on-water development. The most likely location is from the vicinity of the railroad bridge and the Gay Street Bridge, since the barge lane at that location is on the opposite side of the river. In this location, reportedly the water is shallower and it is unknown what locations could be used for on-water facilities. This creates substantial development uncertainty. Part of a master plan should include the identification of desired on-water floating structures, the limitation and criteria for locating these, and identify locations so that future investors have a clear path to approval and development.



Recommended Strategies



Develop Waterfront Park and Path

A recurring idea is the development of better access to the river and a path along the waterfront. While this can take many forms, its basic configuration and development would be important to include in early action. It may make sense to use the 500-year floodplain boundary as a general location of a waterfront park.

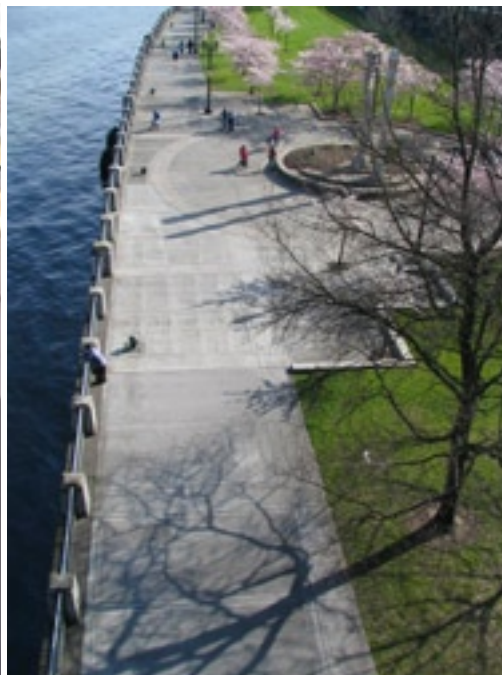


Photo comparisons between Knoxville and Portland, Oregon waterfronts.

Recommended Strategies

Develop Archeology Surveys and Environmental Analyses in Areas that Face Imminent Development

A consolidated archeological survey, done in advance for planned development areas, would be cost effective and help stimulate development. It is an example of an activity that could be funded by a TIF district at the early stages that would probably be a very effective investment.



Long Term or High Risk

Recruit Anchor and Headquarter Use

The entry of a major anchor use or headquarters such as a large corporate headquarters or new hotel development could provide a powerful catalyst in spurring future investment and development along the South Waterfront. The City could actively recruit and promote the siting and development of a major anchor or headquarters for use as a gateway to attract additional development.

Consolidate Properties

As many South Waterfront parcels are small but strategically located, by purchasing options on available properties the City could market parcels as block groups. Rather than hoping for parcel by parcel development, the City would be creating better opportunities for the advancement of robust and substantial economic development in the area.

Develop Park in Fort Dickerson

Fort Dickerson provides an excellent respite for the South Waterfront area but lacks adequate public access. Implementing a more formal park plan with increased access would better engage and support the surrounding community. In turn, Fort Dickerson could become a more enjoyable open space for South Waterfront residents and tourist destination.



Develop Swimming Hole in Quarry

The quarry with its clean water and 200 feet depth could provide a refreshing escape for South Waterfront urban dwellers and Knoxville visitors. The swimming hole could be developed to provide safe and enjoyable public access for swimming and recreation while also adding family entertainment opportunities.

Conclusion



The South Waterfront has great potential and a plan could be developed that allows this area to develop its own revenues to grow naturally. The city's intentions have to be clear to the public and investors. Despite its limitation, it is obvious that the area could develop into one of Knoxville's great success stories. We believe that the key is in finding a way to develop a vision that reaches high and is inspirational, but begins with appropriate small and achievable steps. In this way, the small steps are perceived as a path to the greater vision.

